

ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES

1

5

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 09/30/2020		2. CONTRACT NO. (If any) 68HERC20D0016		6. SHIP TO: a. NAME OF CONSIGNEE CAD	
3. ORDER NO. 68HERC20F0410		4. REQUISITION/REFERENCE NO. See Schedule			
5. ISSUING OFFICE (Address correspondence to) CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001				b. STREET ADDRESS US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136	
				c. CITY Cincinnati	e. ZIP CODE 45268-0001
7. TO: Andrew Parker				f. SHIP VIA	
a. NAME OF CONTRACTOR TETRA TECH, INC.				8. TYPE OF ORDER	
b. COMPANY NAME				<input type="checkbox"/> a. PURCHASE <input checked="" type="checkbox"/> b. DELIVERY REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
c. STREET ADDRESS 10306 EATON PL STE 340				Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY FAIRFAX		e. STATE VA	f. ZIP CODE 220302201		
9. ACCOUNTING AND APPROPRIATION DATA See Schedule				10. REQUISITIONING OFFICE OW	

11. BUSINESS CLASSIFICATION (Check appropriate box(es))				12. F.O.B. POINT	
<input type="checkbox"/> a. SMALL <input checked="" type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED <input type="checkbox"/> g. WOMEN-OWNED SMALL BUSINESS (WOSB) <input type="checkbox"/> h. EDWOSB VETERAN-OWNED ELIGIBLE UNDER THE WOSB PROGRAM					
13. PLACE OF		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) Multiple	
a. INSPECTION Destination	b. ACCEPTANCE Destination			16. DISCOUNT TERMS	

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (a)	SUPPLIES OR SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	DUNS Number: 198549560 TOCOR: John Healey Max Expire Date: 09/30/2023 Invoice Approver: John Healey Alt Invoice App: Leanne Stahl Continued ...					

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		17(h) TOTAL (Cont. pages)
	21. MAIL INVOICE TO:						
	a. NAME RTP Finance Center						\$543,528.34
	b. STREET ADDRESS (or P.O. Box) US Environmental Protection Agency RTP-Finance Center (AA216-01) 109 TW Alexander Drive www2.epa.gov/financial/contracts						\$207,206.57
c. CITY Durham		d. STATE NC	e. ZIP CODE 27711				17(i) GRAND TOTAL

22. UNITED STATES OF AMERICA BY (Signature)

09/30/2020

ELECTRONIC SIGNATURE

23. NAME (Typed)
Gerold D. Young
TITLE: CONTRACTING/ORDERING OFFICER

ORDER FOR SUPPLIES OR SERVICES

PAGE NO

SCHEDULE - CONTINUATION

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IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/30/2020	CONTRACT NO. 68HERC20D0016	ORDER NO. 68HERC20F0410
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
1001	Admin Office: CAD US Environmental Protection Agency 26 West Martin Luther King Drive Mail Code: W136 Cincinnati OH 45268-0001 Period of Performance: 10/01/2020 to 09/30/2021 Provide support for preparing fillet tissue composite samples from the whole fish composite samples collected for human health fish tissue studies conducted by Office of Science and Technology (OST). Requisition No: PR-OW-20-00609, PR-OW-20-00649, PR-OW-20-00650, PR-OW-20-00852 Delivery: 09/30/2021 Accounting Info: 20-21-B-28E-000BD4X20-2505-2028CES001- 001 BFY: 20 EFY: 21 Fund: B Budget Org: 28E Program (PRC): 000BD4X20 Budget (BOC): 2505 DCN - Line ID: 2028CES001-001 Funding Flag: Partial Funded: \$0.00 Accounting Info: 20-21-B-28E-000BD4X20-2505-2028CES047- 001 BFY: 20 EFY: 21 Fund: B Budget Org: 28E Program (PRC): 000BD4X20 Budget (BOC): 2505 DCN - Line ID: 2028CES047-001 Funding Flag: Partial Funded: \$158,000.00 Accounting Info: 20-21-B-28E-000B42-2505-2028CES051-001 BFY: 20 EFY: 21 Fund: B Budget Org: 28E Program (PRC): 000B42 Budget (BOC): 2505 DCN - Line ID: 2028CES051-001 Funding Flag: Partial Funded: \$44,999.56 Accounting Info: 20-21-B-28E-000BD4X20-2505-2028CES063- Continued ...				207,206.57	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$207,206.57

ORDER FOR SUPPLIES OR SERVICES
SCHEDULE - CONTINUATION

PAGE NO
3

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

DATE OF ORDER 09/30/2020	CONTRACT NO. 68HERC20D0016	ORDER NO. 68HERC20F0410
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ITEM NO. (a)	SUPPLIES/SERVICES (b)	QUANTITY ORDERED (c)	UNIT (d)	UNIT PRICE (e)	AMOUNT (f)	QUANTITY ACCEPTED (g)
	001 BFY: 20 EFY: 21 Fund: B Budget Org: 28E Program (PRC): 000BD4X20 Budget (BOC): 2505 DCN - Line ID: 2028CES063-001 Funding Flag: Partial Funded: \$4,207.01 Accounting Info: 20-21-B-28E-000BD4X20-2505 BFY: 20 EFY: 21 Fund: B Budget Org: 28E Program (PRC): 000BD4X20 Budget (BOC): 2505 Funding Flag: Partial Funded: \$0.00					
2001	Provide support for preparing fillet tissue composite samples from the whole fish composite samples collected for human health fish tissue studies conducted by Office of Science and Technology (OST). (Option Line Item) 08/01/2021 Delivery: 09/30/2022				57,413.76	
3001	Provide support for preparing fillet tissue composite samples from the whole fish composite samples collected for human health fish tissue studies conducted by Office of Science and Technology (OST). (Option Line Item) 08/01/2020 Delivery: 09/30/2023				278,908.01	

TOTAL CARRIED FORWARD TO 1ST PAGE (ITEM 17(H))

\$336,321.77

SECTION B - Supplies or Services/Prices

B-1 Local Clauses EPA-B-32-103 LIMITATION OF GOVERNMENT'S OBLIGATION

(a) Severable services may be incrementally funded. Non-severable services shall not be incrementally funded. Contract line item 1001 is non-severable and may not be incrementally funded. For this item, the sum of \$207,206.57 of the total price is presently available for payment and allotted to this contract.

(b) For items identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those items for the Government's convenience, approximates the total amount currently allotted for those items to the contract. The Contractor shall not continue work on those items beyond that point. Subject to the clause entitled "Termination for Convenience of the Government," the Government will not be obligated, under any circumstances, to reimburse the Contractor in excess of the amount payable by the Government in the event of the termination of applicable contract line items for convenience including costs, profit, and estimated termination costs for those line items.

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (h) of this clause, the Contractor will notify the Contracting Officer, in writing, at least 10 days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 75 percent of the total amount currently allotted to the contract for performance of the applicable items. The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of the applicable line items up to the next scheduled date for the allotment of funds identified in paragraph (a) of this clause, or to a substitute date as determined by the Government pursuant to paragraph (d) of this clause. If, after such notification, additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause entitled "Termination for Convenience of the Government."

(d) The parties contemplate that, subject to the availability of appropriations, the Government may allot additional funds for continued performance of the contract line items identified in paragraph (a) of this clause and will determine the estimated period of contract performance which will be covered by the funds. If additional funds are allotted, the Contracting Officer will notify the Contractor in writing. The Contractor shall not resume performance of the contract line items identified in paragraph (a) until the written notice is received. The provisions of paragraphs (b) through (d) of this clause will apply in like manner to the additional allotted funds and to the new estimated period of contract performance. The contract will be modified accordingly.

(e) The Government may, at any time prior to termination, allot additional funds for the performance of the contract line items identified in paragraph (a) of this clause.

(f) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "Default". The provisions of this clause are limited to the work and allotment of funds for the contract line items set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded.

(g) Nothing in this clause affects the right of the Government to otherwise terminate this contract pursuant to the contract clause entitled "Termination for Convenience of the Government".

(h) The parties contemplate that the Government may obligate funds to this contract in accordance with the following schedule:

RECAPITULATION:

RECAPITULATION OF FUNDING TO DATE BY TASK ORDER PERIOD
CONTRACT NO. 68HERC20D0016
TASK ORDER NO. 68HERC20F0410

Period of Performance - FROM 10/01/2020 through 9/30/2021

<u>FUNDING ACTION</u>	<u>FUNDING</u>
Total Task Order Amount:	\$ 207,206.57
Initial Funding:	\$ 207,206.57
Balance Unfunded	\$ 0.00

SECTION F - Deliveries or Performance

F-1 Local Clauses EPA-F-12-101 PERIOD OF PERFORMANCE

The period of performance of this Task Order shall be from 10/01/2020 through 9/30/2021 inclusive of all required reports.

SECTION G - Contract Administration Data

G-1 Local Clauses EPA-G-42-101 CONTRACT ADMINISTRATION REPRESENTATIVES

Task Order-Level Contracting Officers Representatives (CORs)/Project Officers for this contract are as follows:

John Healey, 202-566-0176, healey.john@epa.gov (TOCOR)

Leanne Stahl, 202-566-0404, stahl.leanne@epa.gov (Alternate TOCOR)

Contracting Officials responsible for administering this contract are as follows:

Gerold Young, 513-487-2660, Young.Gerold@epa.gov (Contracting Officer)

Matthew Huber, 513-569-7195, huber.matthew@epa.gov (Contract Specialist)

Performance Work Statement (PWS)
Contract Number 68HERC20D0016
Task Order Number: 68HERC20F0410

Project Title: Support for Fish Tissue Study Human Health Fish Sample Preparation

Task Order Contracting Officer Representative (TOCOR):

John Healey
OW/Office of Science and Technology
U.S. EPA, Mail Code 4305T
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 566-0176
FAX: (202) 566-0409
E-mail: Healey.John@epa.gov

Alternate TOCOR (Alt-TOCOR):

Leanne Stahl
OW/Office of Science and Technology
U.S. EPA, Mail Code 4305T
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460
Phone: (202) 566-0404
FAX: (202) 566-0409
E-mail: Stahl.Leanne@epa.gov

Task Order Type: Time and Materials (with severable tasks)

Period of Performance and Level of Effort:

Period of Performance	Dates	Level of Effort (LOE) hours
Base Period	Date of Award – 09/30/2021	1,815
Option Period 1	10/1/2021 – 09/30/2022	600
Option Period 2	10/1/2022 – 09/30/2023	2245

PURPOSE OF TASK ORDER

The purpose of this Task Order (TO) is to provide support for preparing fillet tissue composite samples from the whole fish composite samples collected for human health fish tissue studies conducted by Office of Science and Technology (OST). During the base period of performance for this Task Order, the specific objectives are to provide support for (1) preparing fish fillet tissue samples from whole fish collected at up to 226 nearshore sites in the five Great Lakes (45 sites per Great Lake, plus one additional site in Lake Superior) for the 2020 Great Lakes Human

Health Fish Fillet Tissue Sample (GLHHFFTS) and at up to 50 enhancement sites in Lake Michigan for the Office of Research and Development(ORD)-Duluth 2020 Great Lakes special study, (2) providing laboratory services for analysis of fish sample preparation QC samples and analysis of all fillet tissue samples for lipids, (3) providing support for documenting and reviewing all of the Great Lakes fish sample processing data for the human health fish samples that were collected during the National Coastal Condition Assessment (NCCA) 2020 field season, and (4) providing support for shipping batches of up to 20 fish fillet tissue samples to analytical laboratories selected for analysis of NCCA 2020 GLHHFFTS and ORD-Duluth 2020 Great Lakes special study fillet samples for target chemicals.

BACKGROUND

Since 1998, the U.S. Environmental Protection Agency's (EPA's) Office of Science and Technology (OST) within the Office of Water (OW) has planned and conducted a series of probability-based fish contamination studies. Four of these studies have been national-scale surveys of chemical residues in freshwater fish tissue. The earliest of these studies was the National Study of Chemical Residues in Lake Fish Tissue (1998-2007), which OST conducted in partnership with ORD, the 10 EPA Regions, and a national network of 58 state, tribal, and federal agencies. The other three national-scale OST studies involved surveys of chemical contamination in the muscle tissue (fillets) of fish from U.S. rivers conducted under EPA's National Rivers and Streams Assessments during 2008-2009, 2013-2014, and 2018-2019, respectively. Each National River and Stream Assessment that OST participated in was co-managed by the Office of Wetlands, Oceans, and Watershed (OWOW) within OW and ORD.

In addition, OST partnered with the Great Lakes National Program Office (GLNPO), OWOW, and ORD to conduct three regional-scale studies of contamination in Great Lakes fish under the Great Lakes portion of EPA's National Coastal Condition Assessments. These studies are referred to as the 2010 Great Lakes Human Health Fish Tissue Study, the 2015 Great Lakes Human Health Fish Fillet Tissue Study, and the 2020 GLHHFFTS. The 2020 GLHHFFTS is currently underway, and all five Tasks described under the Scope of Work of this Performance Work Statement (PWS) relate to the 2020 GLHHFFTS. Planning for this fish tissue study began in 2019 and continued through early 2020. Field sampling training workshops took place during the spring of 2020 (May and early June). Collection of human health fish samples began in June and could continue through early November 2020. **NOTE:** Due to travel and other restrictions associated with the COVID-19 pandemic, all of the training workshops have been conducted online, and the NCCA 2020 field season for the collection of human health fish samples may extend into 2021.

ORD statisticians in Corvallis, Oregon developed the statistically based study design for the Great Lakes portion of the 2020 National Coastal Condition Assessment and provided a list of 226 randomly selected nearshore sites (45 sites in each of the five Great Lakes, with one additional site in Minnesota/Lake Superior). Field crews assigned by OWOW are attempting to collect fish samples for the 2020 GLHHFFTS at all 226 nearshore sites. ORD scientists in Duluth, Minnesota are conducting a special study in the Great Lakes during 2020 that also includes collection of human health fish tissue samples. They randomly selected 50

enhancement sites in Lake Michigan for their study, consisting of 38 island sites in northern Lake Michigan and 12 national park sites in southern Lake Michigan. Field crews assigned by OWOW are also attempting to collect fish samples for the ORD-Duluth 2020 Great Lakes special study at all 50 Lake Michigan enhancement sites. Fish sample preparation can begin as soon as this Task Order is awarded, if there are a sufficient number of Great Lakes human health fish samples available from either the 2020 GLHHFFTS nearshore sites or from the 2020 Great Lakes special enhancement to begin assigning fish samples to batches (a minimum of 20 human health fish samples from the Great Lakes nearshore sites or from the Great Lakes enhancement sites).

OST is collaborating with the ORD scientists in Duluth to provide support for fish sample collection and fillet tissue sample preparation for their 2020 Great Lakes special study. The goal for both the 2020 GLHHFFTS and the ORD-Duluth Great Lakes special study is to collect one fish composite sample from each of the 226 nearshore and 50 enhancement sites. Ideally, a fish composite sample consists of five adult fish of the same species (species commonly caught and consumed by recreational fishers) and similar lengths (the length of the smallest fish in the composite sample is greater than or equal to 190 mm and is not less than 75% of the length of the largest fish in the composite sample). The target chemicals for the 2020 GLHHFFTS fish samples collected from the nearshore sites include mercury, all 209 polychlorinated biphenyl (PCB) congeners, PCB Aroclors, up to 33 per- or polyfluoroalkyl substances (PFAS), and omega-3 and omega-6 fatty acids. This study is providing the opportunity for developing trends data for contaminant levels in Great Lakes fish when compared to the previous two Great Lakes human health fish tissue studies conducted in 2010 and 2015. The target chemicals for fish samples collected from the ORD-Duluth 2020 Great Lakes special study enhancement sites are up to 33 PFAS, mercury and the 209 PCB congeners.

Scope of Work

Contractor support required to address the TO objectives for supporting EPA freshwater fish contamination studies are described under the following five (5) Tasks:

- Task 1: Administrative Reporting, Communication and Coordination
- Task 2: Support for Laboratory Preparation of Fish Fillet Tissue Samples
- Task 3: Support for Preparing QC Samples and Obtaining Laboratory Services to Conduct Analysis of Fish Sample Preparation QC Samples and Lipid Samples
- Task 4: Support for Documenting, Reviewing, and Reporting Fish Fillet Tissue Sample Preparation Data
- Task 5: Support for Packing and Shipping Samples to Laboratories Designated for Fillet Tissue Sample Analysis

The task order anticipates the potential addition of two option periods, with scope of work consistent with what is described for the base period. Option period 1 will be exercised if additional fish samples must be collected from the Great Lakes in 2021 (due to missed sites in 2020). Option period 2 will be exercised if OST can participate in the 2022 National Lakes

Assessment (NLA) and will be consistent with tasks described for the base period, for up to 400 lake fish samples. In both cases, contractor support will be consistent the scope of work in the base period, described in this PWS.

All contractor activities described in the performance work statement (PWS) for this TO fall under the following numbered tasks in Sections 3 and 4 of the contract-level PWS for Contract Number 68HERC20D0016:

- Task 3.3 Technical Guidance, Report Development, and General Program Analysis
- Task 3.4 Compilation and Analysis of National and International Environmental Data
- Task 3.6 Environmental Assessments
- Task 3.8 Laboratory Analysis
- Task 4.1 Quality Management System
- Task 4.4 Quality Assurance Reporting
- Task 4.5 Data Integrity

Regarding the Quality Assurance and Quality Control (QA/QC) support activities needed in this TO, the Contractor shall use the existing approved Quality Assurance Project Plans (QAPPs) that apply to Great Lakes Human Health Fish Fillet Tissue Study (GLHHFFTS) under the 2020 National Coastal Condition Assessment (NCCA) and the ORD-Duluth 2020 Great Lakes special study, to perform activities described in Tasks 2 through 5. Appendix B of the NCCA 2020 fish sample preparation QAPP contains the NCCA 2020 Great Lakes fillet tissue sample preparation, homogenization, and distribution procedures. Adherence to these procedures ensures that fish tissue preparation activities at the Tetra Tech laboratory are performed consistently across all study samples and in a manner consistent with previous EPA fish tissue studies.

1. *National Coastal Condition Assessment 2020 Quality Assurance Project Plan* Version 1.1 April 2020. (See 5.10.6 Data Management, Review and Validation, Table 5.5.4)
2. *Quality Assurance Project Plan for National Coastal Condition Assessment (NCCA) 2020 Great Lakes Human Health Fish Sample Preparation*. July 2020.

DESCRIPTION OF TASKS

Task 1. Administrative Reporting, Communication and Coordination

Under Task 1, the Contractor shall be responsible for preparing and submitting monthly progress and financial reports, for establishing and maintaining regular communication with the EPA TOCOR, and for coordinating with various organizations involved with laboratory preparation of human health fish tissue composite samples collected for the National Coastal Condition Assessment (NCCA) 2020 Great Lakes Human Health Fish Fillet Tissue Study and the ORD-Duluth 2020 Great Lakes special study. Subtasks 1.1, 1.2, and 1.3 describe specific requirements related to each of these responsibilities.

Subtask 1.1: Prepare and Submit Progress and Financial Reports

The Contractor shall prepare and submit monthly progress and financial reports in accordance with requirements specified in Contract Number 68HERC20D0016. The monthly progress report shall describe project status and list deliverables completed for each Task, identify issues and issue resolution, summarize quality assurance and quality control (QA/QC) activities, and present next steps. The monthly financial reports shall include monthly expenditures and expenditures to date. In addition, the Contractor shall perform other TO administration activities as described under *General Requirements for Task Order Administration*, such as preparation of information and ad hoc reports.

Subtask 1.2: Establish and Maintain Communication with the EPA TOCOR

The Contractor shall establish communication with the EPA TOCOR within one business day after award of this TO and schedule a project kickoff conference call within three business days after TO award. The EPA TOCOR will draft an agenda for the kickoff call and distribute the agenda before the kickoff call. In addition, the Contractor shall develop a schedule to communicate regularly with the EPA TOCOR throughout the period of performance for the TO.

Subtask 1.3: Coordinate with Organizations Involved in NCCA 2020 Great Lakes Human Health Fish Sample Preparation

The Contractor shall coordinate with organizations that are involved in NCCA 2020 Great Lakes human health fish sample collection and analysis to provide support for receiving shipments of fish samples, preparing homogenized fillet tissue samples for analysis, preparing quality control (QC) samples from fish preparation procedures and obtaining laboratory services to analyze lipids and aqueous QC samples, and shipping prepared fish fillet tissue samples to designated analytical laboratories. These organizations include, but are not limited to, the following:

- Other EPA offices, such as the Office of Research and Development (ORD), the Office of Wetlands, Oceans, and Watersheds (OWOW) within the Office of Water (OW), and the Great Lakes National Program Office (GLNPO).

- Other EPA contractors, such as the Great Lakes Environmental Center (GLEC) in Traverse City, Michigan whose facility serves as the NCCA 2020 Central Supply Distribution Center and whose staff serve as the NCCA 2020 Field Logistics Coordinator, field sampling trainers, and field crew leaders, and EPA's fish study analytical support contractor.
- Analytical laboratories designated by the Contractor to conduct QC analysis of lipid and rinsate samples, and laboratories designated by EPA's fish study analytical support contractor to analyze homogenized fish tissue samples for contaminants, including but not limited to, mercury, polychlorinated biphenyls (PCBs), and per- and polyfluoroalkyl substances (PFAS).

While coordinating with these organizations or performing work under this TO, the Contractor shall immediately notify the EPA TOCOR about any questions, issues, problems, or delays that arise. The EPA TOCOR will provide answers to Contractor questions and schedule time with the Contractor to discuss and resolve issues, problems, or impacts of delays.

Task 2. Support for Laboratory Preparation of Fish Fillet Tissue Samples

Under Task 2, the Contractor shall provide support for laboratory preparation of homogenized fillet samples for tissue analysis from Great Lakes human health fish samples collected for the 2020 GLHHFFTS and for the 2020 ORD-Duluth Great Lakes special study. **Throughout fish tissue processing, storage and shipping, samples from the 226 targeted nearshore sites designated for the 2020 GLHHFFTS must be kept separate from samples from the 50 targeted enhancement sites (from Lake Michigan) designated for the ORD-Duluth Great Lakes special study.** The Contractor shall be responsible for receiving and checking in the fish samples, as described in Subtask 2.1; assigning NCCA 2020 Great Lakes human health fish composite samples to individual fish sample preparation batches and preparing sample preparation instructions for each batch, as described in Subtask 2.2; ordering supplies and providing necessary laboratory space and equipment to complete fillet tissue sample preparation, as described in Subtask 2.3; and ensuring that staff assigned to do the fillet tissue sample preparation are knowledgeable about and adequately trained in filleting techniques and in the entire series of procedures and requirements, as described in Subtask 2.4. The Contractor shall also be responsible for a series of activities related to preparing the homogenized fillet tissue samples for the NCCA 2020 Great Lakes human health fish tissue studies in accordance with the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study fish sample preparation master instructions spreadsheets, respectively, as described in Subtask 2.5.

Subtask 2.1: Receiving and checking in the NCCA 2020 Great Lakes human health fish composite samples into the Contractor's laboratory for interim storage

The Contractor shall provide support for receiving and checking in the Great Lakes human health fish composite samples into the Contractor's laboratory in Owings Mills, Maryland. This support applies to direct delivery of Great Lakes human health fish composite samples to the Owings Mills laboratory from onsite collection of Great Lakes fish samples by the Contractor, as applicable. It also applies to transfer of Great Lakes human health fish composite samples from the Microbac Laboratories in Baltimore to the Owings Mills laboratory once the Contractor receives EPA authorization to begin the fish sample preparation process. This support consists of, but is not limited to, the following:

- *Checking the 2020 GLHHFFTS fish composite samples and the 2020 ORD-Duluth Great Lakes special study fish composite samples into the Owings Mills laboratory after direct delivery or after fish sample transfer from Microbac Laboratories once EPA authorizes the Contractor to begin the fish sample preparation process.* The Contractor shall check the 2020 GLHHFFTS fish composite samples and the 2020 ORD-Duluth Great Lakes special study fish composite samples into the Contractor's laboratory in Owings Mills, Maryland immediately after taking delivery of these fish composite samples. In completing this activity, the Contractor shall follow the fish composite sample check-in procedures described in the NCCA 2020 Great Lakes human health fish sample preparation QAPP.
- *Notifying the EPA TOCOR about the fish composite sample check-in process and the condition of the fish composite samples received.* The Contractor shall notify the EPA TOCOR about completion of the fish composite sample check-in process and the condition of the fish composite samples via email on the day that the fish composite samples are delivered to the Tetra Tech laboratory.

Subtask 2.2: Assigning NCCA 2020 Great Lakes human health fish composite samples to individual fish sample preparation batches and preparing sample preparation instructions for each batch

The Contractor shall provide support for assigning NCCA 2020 Great Lakes human health fish composite samples, from as many as 226 nearshore sites (designated for the 2020 GLHHFFTS) and as many as 50 enhancement sites (designated for the ORD-Duluth 2020 Great Lakes special study), to individual fish sample preparation batches. The Contractor shall also provide support for preparing fish sample preparation instructions for each assigned batch of Great Lakes human health fish samples collected from nearshore sites and from enhancement sites. This support shall consist of, but not be limited to, the following:

- *Assigning NCCA 2020 Great Lakes human health fish composite samples to individual fish sample preparation batches.* The Contractor shall assign NCCA 2020 Great Lakes human health fish composite samples collected from nearshore sites and those collected from enhancement sites to separate sets of fish sample preparation batches (i.e., the Contractor shall not mix fish samples collected from nearshore sites with fish samples collected from enhancement sites in individual fish sample preparation batch assignments). Each fish sample preparation batch shall contain 20 fish composite samples (except where there are fewer than 20 composite samples left to assign to a batch).

- The Contractor shall contact the EPA TOCOR for direction if it may be necessary to assign fewer or greater than 20 fish composite samples to a batch (assignment of greater than 20 samples may be acceptable in cases where there are only one or two samples remaining after assignment of all other samples to batches).
 - When possible, the Contractor shall apply an approach for assigning Great Lakes human health fish composite samples to fish sample preparation batches that results in a similar number of fish per batch (if the composite samples contain a variable number of fish) and in similar types of fish species per batch.
 - The EPA TOCOR will review and approve assignment of the NCCA 2020 Great Lakes human health fish composite samples to nearshore site fish sample preparation batches and to enhancement site fish sample preparation batches.
- *Developing sample preparation instructions for each assigned batch.* The Contractor shall develop draft fish sample preparation instructions for the NCCA 2020 Great Lakes human health fish composite samples collected from nearshore sites and from enhancement sites and enter these instructions in the separate spreadsheets developed for each type of site. In preparing the draft instructions, the Contractor shall apply the fish composite sample collection criteria (e.g., the same species criterion, the 190-mm minimum length criterion and the 75% fish length criterion) and use instruction language and formats consistent with fish sample preparation instructions developed for the 2015 NCCA fish composite samples and specified in Appendix B of the NCCA 2020 Great Lakes human health fish sample preparation QAPP. The EPA TOCOR will provide an electronic copy of the 2015 NCCA fish sample preparation instructions for reference.
 - The Contractor shall submit nearshore site draft fish sample preparation instructions and enhancement site draft fish sample preparation instructions for EPA TOCOR review and comment and prepare final fish sample preparation instructions for nearshore sites and for enhancement sites based on EPA TOCOR comments.
 - The EPA TOCOR will review and approve the final NCCA 2020 Great Lakes human health fish sample preparation instructions for nearshore sites and for enhancement sites prior to the Contractor initiating any processing of fish tissue samples.
 - The Contractor shall incorporate final fish sample preparation instructions for nearshore sites into the NCCA 2020 GLHHFFTS fish sample collection and preparation master spreadsheet and for enhancement sites into the 2020 ORD-Duluth Great Lakes special study fish sample collection and preparation master spreadsheet.

Subtask 2.3: Ordering supplies, providing necessary laboratory space and equipment to complete fillet tissue sample preparation, and providing freezer space for interim storage

The Contractor shall provide support for ordering supplies necessary to complete fillet tissue sample preparation from NCCA 2020 Great Lakes human health fish samples collected from nearshore sites and enhancement sites. The Contractor shall also provide the laboratory space and fillet tissue sample preparation equipment necessary to complete all aspects of the fillet

tissue sample preparation for the NCCA 2020 GLHHFFTS and the ORD-Duluth Great Lakes special study. This support shall consist of, but not be limited to, the following:

- *Ordering laboratory supplies to complete fillet sample preparation.* The Contractor shall order laboratory supplies necessary for preparing and shipping fillet tissue samples based on requirements specified in the NCCA 2020 Great Lakes Fillet Tissue Sample Preparation, Homogenization, and Distribution Procedures, available in Appendix B of the NCCA 2020 Great Lakes human health fish sample preparation QAPP.
 - Before ordering supplies, the Contractor shall identify expendable laboratory supplies required to support NCCA 2020 Great Lakes human health fish fillet sample preparation and submit a list of these supplies that includes the amount and cost for each of the supplies to the EPA TOCOR for review and approval. These supplies include, but are not limited to, nitrile gloves, utensils for scaling and filleting fish, cutting boards, containers for holding the bulk homogenized fillet tissue during processing, solvents for cleaning fish sample preparation equipment, jars for fillet tissue sample aliquots designated for target chemical analyses and sample archives.
 - The Contractor shall obtain only food-grade dry ice pellets for homogenizing fillets and only dry ice blocks for shipping fish tissue samples.
 - The Contractor shall obtain these supplies sufficiently in advance of the schedule for initiating fish sample preparation and for shipping fillet tissue samples to designated laboratories to avoid any unnecessary delays in the fish tissue sample preparation operations.
- *Providing laboratory space and equipment to complete fillet sample preparation.* The Contractor shall provide the laboratory space and fillet tissue sample preparation equipment that will meet the requirements specified in the NCCA 2020 Great Lakes fillet tissue sample preparation, homogenization, and distribution procedures described in the Fillet Tissue Sample Preparation, Homogenization, and Distribution Procedures (see NCCA 2020 Great Lakes fillet tissue sample preparation QAPP Appendix B). The Contractor shall provide adequate laboratory space and equipment necessary to complete all aspects of the fillet tissue sample preparation for the NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study. The laboratory space and equipment requirements for the NCCA 2020 Great Lakes human health fish tissue studies shall be comparable to these requirements for the 2018-19 NRSA Fish Tissue Study.
- *Providing secure freezer space for interim storage of NCCA 2020 Great Lakes human health fish samples.* The Contractor shall provide secure freezer space for interim storage of Great Lakes human health fish sample preparation batches undergoing or awaiting processing and the resulting fillet tissue samples from processing each batch. The Contractor shall ensure that there is sufficient freezer capacity for temporary storage of up to 40 whole fish composite samples (or up to 200 individual fish) and up to 600 fillet tissue samples in containers of various sizes. The Contractor shall store the whole fish and fillet tissue samples in accordance with the NCCA 2020 Great Lakes human health fish sample preparation QAPP requirements (e.g., temperatures less than or equal to - 20

degrees Celsius). In case of a power failure, the Contractor shall have an emergency backup plan to keep all the whole fish and fillet tissue samples frozen at temperatures below - 20 degrees Celsius. The Contractor shall refrigerate the aqueous QC samples until they are ready for shipment or transport.

Subtask 2.4: Ensuring that staff assigned to do the fillet tissue sample preparation are knowledgeable about and adequately trained in filleting techniques and in the entire series of procedures and requirements

The Contractor shall provide support for ensuring that staff assigned to do the fillet tissue sample preparation are knowledgeable about and adequately trained in filleting techniques and in the entire series of procedures and requirements described in the NCCA 2020 Great Lakes human health fish sample preparation QAPP Appendix B. The Contractor shall also assign a Senior Fisheries Biologist with extensive filleting and fish tissue sample preparation experience to provide training, technical assistance, and performance monitoring for fish tissue sample preparation staff. This support shall consist of, but not be limited to, the following:

- *Ensuring that staff assigned to do the fillet tissue sample preparation are knowledgeable and adequately trained.* The Contractor shall ensure that staff assigned to conduct fillet tissue sample preparation activities have at least three years of fish filleting and taxonomy experience and are adequately trained on the entire series of NCCA 2020 Great Lakes fillet tissue sample preparation procedures and requirements. These procedures include, but are not limited to, confirming that all fish in the composite sample are the same species; weighing individual fish in each fish composite sample and recording their weights prior to initiating fillet tissue sample preparation; scaling and filleting fish; homogenizing fillet tissue; cleaning fillet tissue sample preparation equipment; preparing fillet tissue sample aliquots; and recording all the required information for weekly progress reports on laboratory bench sheets developed for this study and provided in the NCCA 2020 Great Lakes human health fish sample preparation QAPP.
- *Assigning a Senior Fisheries Biologist to train staff and oversee sample preparation procedures.* The Contractor shall assign a Senior Fisheries Biologist with extensive experience identifying Great Lakes fish species, filleting a wide range of fish species, and supporting fish tissue sample preparation for EPA fish tissue studies (e.g., 2015 GLHHFFTS) to train staff in developing the technical skills necessary to successfully complete all fillet tissue sample preparation activities for the NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study. The Senior Fisheries Biologist shall also be responsible for providing technical assistance (e.g., filleting and homogenizing sensitive composite samples that may not yield the minimum amount of tissue mass necessary to prepare all fillet tissue aliquots), as required, and for monitoring the performance of fillet tissue sample preparation staff to ensure that they adhere to all of the requirements in the fillet tissue sample preparation procedures for these Great Lakes human health fish tissue studies.

Subtask 2.5: Preparing the homogenized fillet tissue samples for the NCCA 2020 Great Lakes human health fish tissue studies in accordance with the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study fish sample preparation master instructions spreadsheets

The Contractor shall be responsible for a series of activities related to preparing the homogenized fillet tissue samples for the NCCA 2020 Great Lakes human health fish tissue studies in accordance with the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study fish sample preparation master instructions spreadsheets, respectively. These activities shall consist of filleting each fish in the valid whole fish samples (as assigned in the sample preparation instructions for each batch), homogenizing the fillet tissue, preparing the required number of fish tissue aliquots for analysis and archive, and providing short-term storage for archived fish tissue samples in a freezer at their facility.

- *Sample aliquots and storage.* The specific procedures for NCCA 2020 Great Lakes human health fish sample preparation activities are described in Appendix B of the NCCA 2020 Great Lakes human health fish sample preparation QAPP. The Contractor shall implement the NCCA 2020 Great Lakes fillet tissue sample preparation instructions and procedures to prepare the fillet tissue samples required for the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study.
 - The fillet tissue samples required for the NCCA 2020 Great Lakes human health fish tissue studies shall include a series of up to 11 homogenized fillet tissue aliquots specified in the fillet tissue sample procedures (7 homogenized fillet tissue aliquots for target chemical analyses and up to 4 for sample archives).
 - EPA anticipates that up to 276 fish composite samples (14 fish sample preparation batches) will require fillet sample preparation during the period of performance for this TO.
 - The Contractor shall store the whole fish and fillet tissue samples in accordance with the NCCA 2020 Great Lakes human health fish sample preparation QAPP requirements (e.g., temperatures less than or equal to - 20 degrees Celsius).

Task 3. Support for Preparing QC Samples and Obtaining Laboratory Services to Conduct Analysis of Fish Sample Preparation QC Samples and Lipid Samples

Under Task 3, the Contractor shall provide support for preparing a set of QC samples from one fish composite sample for each assigned batch of Great Lakes human health fish samples collected from nearshore sites and from enhancement sites, following procedures described in Appendix B of the NCCA 2020 Great Lakes human health fish sample preparation QAPP, as described in Subtask 3.1. In addition, the Contractor shall prepare a single homogenized fillet tissue aliquot for lipid analysis from each remaining fish composite sample in each fish sample preparation batch of Great Lakes human health fish samples collected from nearshore sites and from enhancement sites (e.g., for batches containing 20 fish composite samples, single homogenized fillet aliquots will be analyzed from 19 fish composite samples), as described in Subtask 3.2. Lastly, the Contractor shall obtain laboratory services for analysis of all fish sample

preparation QC samples (except the PFAS aqueous QC samples) and for analysis of lipid samples as described in Subtasks 3.1 and 3.2), ship the samples to the analytical laboratory or laboratories procured by the Contractor, and report results of these analyses to the EPA TOCOR, as described in Subtask 3.3. For all tasks related to preparing and shipping the fish sample preparation QC samples and the lipid samples to contracted laboratories for analysis, the samples associated with the 226 targeted nearshore sites designated for the 2020 GLHHFFTS **must** be kept separate from the fish sample preparation QC samples and lipid samples associated with the 50 targeted enhancement sites designated for the 2020 ORD-Duluth Great Lakes special study.

Subtask 3.1: Preparing QC (Triplicate Lipid and Aqueous) Samples

The Contractor shall prepare a set of QC samples from one fish composite sample in each of the NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study fish sample preparation batches, following the procedures described for fillet tissue sample preparation in Appendix B of the NCCA 2020 Great Lakes human health fish sample preparation QAPP). This set of QC samples includes a triplicate set of homogenized fillet samples for lipid analysis and a pair of aqueous samples consisting of a rinsate sample and a solvent blank sample for each target chemical, as summarized :

- Triplicate set of homogenized fillet samples for lipid analysis
- Rinsate samples for mercury analysis, consisting of one deionized (DI) water equipment rinsate sample and one DI water blank sample
- Rinsate samples for PFAS analysis, consisting of one deionized (DI) water equipment rinsate sample and one DI water blank sample
- Rinsate samples for PCB analysis, consisting of one hexane equipment rinsate sample and one hexane blank sample

Subtask 3.2: Preparing Lipid Samples

The Contractor shall also prepare a single homogenized fillet tissue aliquot for lipid analysis from each remaining fish composite sample in the fish sample preparation batch (e.g., for batches containing 20 fish composite samples, 19 single homogenized fillet aliquots will be analyzed from 19 fish composite samples).

- Lipids are extracted from each fillet tissue sample using a method proposed by the analytical laboratory procured by the Contractor. The NCCA 2020 Great Lakes human health fish sample preparation QAPP will be revised to include a description of the extraction method after the analytical laboratory is selected and their proposed method for lipid analysis is approved.
- Percent lipid content is calculated by dividing the lipid weight by the initial fillet tissue aliquot weight and multiplying that result by 100. The batch-specific lipid results for homogeneity evaluations are reviewed initially by the Contractor and independently by EPA's fish study analytical support contractor against the QC specifications detailed in Section B5 of the NCCA 2020 Great Lakes human health fish sample preparation QAPP.

Subtask 3.3: Obtaining Laboratory Services, Shipping Samples and Reporting Results

The Contractor shall provide support for obtaining laboratory services, shipping aqueous and fillet tissue samples, and reporting analytical results as described below.

- *Obtaining laboratory services for analysis of QC samples and percent lipid content.* The Contractor shall obtain laboratory services for, and monitor analysis of, aqueous QC samples for selected target chemicals (e.g., mercury and PCBs) and homogenized fillet samples for lipids (triplicate QC fillet samples from one fish sample per batch and from single fillet samples for the other fish samples in the batch). The EPA TOCOR shall approve methods to analyze the aqueous QC samples for selected target chemicals and the homogenized fillet samples for lipids prior to the designated laboratory or laboratories initiating analysis of these aqueous QC samples and homogenized fillet samples.
- *Packing, Shipping and Tracking QC and Fillet Tissue Samples for Rinsate and Lipid Analysis.* The Contractor shall be responsible for packing the NCCA 2020 Great Lakes human health fish sample preparation triplicate lipid and aqueous QC samples and the single lipid fillet tissue samples for analysis in coolers and shipping these samples to the analytical laboratories procured by the Contractor.
 - To prepare the mercury and PCB aqueous QC samples for transport or shipment to designated analytical laboratories, the Contractor shall follow procedures consistent with those used to transport or ship aqueous fish sample preparation QC samples for the 2018-19 NRSA Fish Tissue Study, including use of wet ice for preservation of aqueous samples during transit or shipment to analytical laboratories. **For PFAS aqueous QC samples only, the Contractor shall pack and ship these aqueous QC samples to the laboratory designated by EPA's fish study analytical support contractor. See Task 5 for special instructions related to analysis and shipping of PFAS aqueous QC samples and lipid samples.**
 - The Contractor shall obtain enough quantities of dry ice blocks to preserve the fillet tissue samples for lipid analyses in a cooler for at least 48 hours while in transit to the designated analytical laboratory (e.g., a minimum of 30 pounds of dry ice blocks per cooler for up to 10 pounds of fillet tissue samples). **The Contractor shall not use dry ice pellets for shipment of any fish tissue samples to analytical laboratories.**
 - The Contractor shall pack triplicate lipid QC samples, aqueous QC samples, and homogenized fillet lipid aliquots for analysis in coolers and shall ship these samples to the laboratory or laboratories procured by the Contractor to analyze these samples unless alternative QC sample transport arrangements are made with each laboratory. The Contractor shall include a list of samples being shipped in each cooler and any other forms required for shipping (e.g., Customs forms for shipments, if applicable).
 - The Contractor shall ship coolers containing aqueous QC and homogenized fillet tissue samples for lipid analysis on Mondays, Tuesdays, or Wednesdays during

weeks that the EPA TOCOR identifies in written technical direction for shipment of these sample batches, using an overnight express delivery service, and shall specify priority delivery the next morning.

- The Contractor shall also provide shipping information (e.g., tracking numbers and airbill numbers) to the TOCOR for tissue or aqueous samples sent to designated analytical laboratories.
 - For delivery of QC and fillet samples to analytical laboratories procured by the Contractor, the Contractor shall report the sample condition at the time of cooler delivery to the EPA TOCOR within 24 hours of laboratory receipt of the cooler containing the samples.
- *Reporting results of QC Sample Analyses.* The Contractor shall coordinate data delivery schedules for the QC samples with the EPA TOCOR, prior to completing the analytical laboratory procurement process, to avoid delays in the EPA schedule for preparing each batch of fillet tissue samples for the NCCA 2020 Great Lakes human health fish tissue studies. The Contractor shall be responsible for reporting all lipid and QC sample analysis results to the EPA TOCOR when they become available. The NCCA 2020 Great Lakes human health fish sample preparation QAPP specifies criteria that the QC sample results must meet to be acceptable. This QAPP also identifies corrective actions that apply if the QC sample results do not meet the criteria.
 - The Contractor shall report the results of the chemical-specific aqueous sample analyses for mercury and PCBs (PFAS aqueous QC samples will be analyzed by the laboratory selected for analysis of Great Lakes human health fillet tissue samples for PFAS) and the results for the triplicate lipid results associated with each fish sample preparation batch (generally 20 fish samples per batch) to the EPA TOCOR. The Tetra Tech laboratory is also responsible for reporting the full set of lipid analysis results to the EPA TOCOR, so these results can be added to each study-specific Access fish study database managed by another EPA contractor. This includes the single lipid analysis results for 19 of the 20 fish samples in a typical batch and the individual and average triplicate lipid results for one fish sample in a preparation batch.
 - The batch-specific homogeneity and aqueous QC sample results are reviewed by EPA against the QC specifications detailed in applicable sections of the NCCA 2020 Great Lakes human health fish sample preparation QAPP.
 - The Contractor may continue to process up to 2 additional batches during the QC sample analysis and review process. However, the Contractor may **not** continue beyond the third batch of fish samples until receiving notification from the TOCOR that the review of initial batch aqueous and homogeneity test results is complete, and the results were deemed satisfactory.

Task 4. Support for Documenting, Reviewing, and Reporting Great Lakes Human Health Fish Fillet Sample Preparation Data

Thorough documentation of all NCCA 2020 Great Lakes human health fish sample preparation activities is necessary for proper sample processing in the laboratory and, ultimately, for the interpretation of study results. During NCCA 2020 Great Lakes human health fish sample preparation operations, the Contractor shall prepare and submit a fillet tissue sample preparation weekly progress report to the EPA TOCOR to document the status of fish preparation activities.

In preparing the weekly progress reports, the Contractor shall use a format consistent with reporting NCCA 2015 fillet sample preparation status (e.g., an Excel spreadsheet with information on the percentage of total fillet mass compared to the total body mass, tissue mass requirements for specified tissue aliquots, etc.). The complete requirements for reporting the Great Lakes human health fish sample preparation data are provided in the NCCA 2020 Great Lakes human health fish sample preparation QAPP. The EPA TOCOR will provide an electronic file of a weekly progress report from the NCCA 2015 fillet sample preparation process for reference. The Contractor shall submit each weekly progress report to the EPA TOCOR on the Tuesday after the week that fillet sample preparation activities are completed. **Note:** Fish sample preparation from the 226 targeted nearshore sites designated for the 2020 GLHHFFTS must be kept in separate progress reports (e.g., in separate Excel files) from fish sample preparation data from the 50 targeted enhancement sites designated for the 2020 ORD-Duluth Great Lakes special study.

Task 5. Support for Packing and Shipping Samples to Laboratories Designated for Fillet Tissue Sample Analysis

Under Task 5, the Contractor shall provide support for packing and shipping the NCCA 2020 Great Lakes human health fillet tissue samples associated with 2020 GLHHFFTS nearshore sites and 2020 ORD-Duluth Great Lakes special study enhancement sites to analytical laboratories designated by EPA TOCOR for chemical-specific analyses of these samples.

No batch of fillet tissue samples or PFAS aqueous QC samples may be shipped until the EPA TOCOR has reviewed the fish sample preparation batch lipid homogeneity testing and aqueous QC samples results and authorized shipment of fillet sample or PFAS aqueous QC sample batches to the designated analytical laboratories in writing. For all tasks associated with packing and shipping samples to analytical laboratories, the fillet sample batches and PFAS aqueous QC samples associated with the 226 targeted nearshore sites designated for the 2020 GLHHFFTS **must be kept separate** from the fillet sample batches and PFAS aqueous QC samples associated with the 50 targeted enhancement sites designated for the 2020 ORD-Duluth Great Lakes special study. The EPA TOCOR will notify the Contractor by email when specific batches of fillet tissue samples and PFAS aqueous QC samples may be shipped, and to whom.

- *Packing and Shipping Fillet Tissue Samples and Aqueous QC Samples (PFAS only) for Target Chemical Analysis.* The Contractor shall be responsible for packing the NCCA 2020 Great Lakes fillet tissue samples in coolers (one batch of fillet samples per cooler) and shipping these samples to laboratories specified by the EPA TOCOR for target

chemical analyses (e.g., mercury, PCBs, PFAS [including aqueous QC samples], and fatty acids). **The Contractor must do this in coordination with the TOCOR and with EPA's fish study analytical support contractor to conform to contract analytical laboratory fillet sample analysis schedules.** EPA's fish study analytical support contractor will provide shipping support to transport coolers containing 2020 NCCA Great Lakes human health homogenized fillet samples to designated analytical laboratories.

- The Contractor shall obtain enough quantities of dry ice blocks to preserve the fillet tissue samples in a cooler (generally with a 70-quart capacity) for at least 48 hours while in transit to the designated analytical laboratory (e.g., a minimum of 30 pounds of dry ice blocks per cooler for up to 10 pounds of fillet tissue samples). **The Contractor shall not use dry ice pellets for shipment of any fish tissue samples to analytical laboratories.**
- For PFAS aqueous QC samples only, the Contractor shall pack and ship these aqueous QC samples to the laboratory designated for PFAS analysis. The Contractor shall follow procedures consistent with those used to ship PFAS aqueous QC samples generated during fish sample preparation for the 2018-19 NRSA Fish Tissue Study, including use of wet ice to preserve the aqueous PFAS samples during shipment. The Contractor shall ship coolers containing fillet tissue samples and PFAS aqueous QC samples on Mondays, Tuesdays, or Wednesdays during weeks that the EPA TOCOR identifies in written technical direction for shipment of these sample batches, using an overnight express delivery service, and shall specify priority delivery the next morning. Also, for PFAS analysis only, the aqueous QC samples will be packed in a 70-quart capacity cooler with a minimum of 20 pounds of wet ice before being shipped to the PFAS analytical laboratory. During the task order period of performance, EPA estimates that up to 12 coolers of 2020 NCCA Great Lakes homogenized fillet samples will be shipped to each of the analytical laboratories designated for analysis of these samples for mercury, PCB congeners, PCB Aroclors, and fatty acids (the EPA TOCOR will identify the laboratory that GLNPO designates for fatty acid analysis, which will not be a laboratory that the Contractor is responsible for selecting through a competitive process). EPA also estimates that up to 14 coolers of 2020 NCCA Great Lakes homogenized fillet samples (from the NCCA 2020 GLHHFFTS and the ORD-Duluth 2020 Great Lakes special study) and up to 2 coolers of fillet sample preparation aqueous QC samples (rinse and solvent blank samples) will be shipped to the analytical laboratory selected for PFAS analysis. Collectively, this will involve shipping **an estimated total of 64 coolers** containing batches of homogenized fillet samples or aqueous QC samples to as many as five analytical laboratories designated for analysis of 2020 NCCA Great Lakes homogenized fillet samples and fillet sample preparation aqueous QC samples (for PFAS analysis only).
- EPA's fish study analytical support contractor will provide the Contractor with pre-addressed shipping bills with each designated analytical laboratory shipping address and point of contact information (e.g., name, phone number, and email address) for shipping these samples for target chemical analyses.

- The Contractor shall include a list of samples being shipped in each cooler and any other forms required for shipping (e.g., Customs forms for shipments, if applicable). The Contractor shall ship coolers containing fillet tissue samples and coolers containing aqueous PFAS samples on Mondays, Tuesdays, or Wednesdays during weeks that the EPA TOCOR identifies in written technical direction for shipment of these sample batches. The Contractor shall use an overnight express delivery service for priority delivery to each analytical laboratory the next morning.

SCHEDULE OF DELIVERABLES

The Contractor shall provide all written deliverables, such as documents, reports, and summaries, in both hard copy and electronic form or as detailed by the EPA TOCOR in written technical direction. The Contractor shall ensure that all software and fonts used to develop deliverables are readily available on the OST computer network and compatible with OST printer systems.

The Contractor shall follow the quality assurance and quality control plan under Contract Number 68HERC20D0016 and the applicable fish contamination study QAPPs in preparing TO deliverables (i.e., the 2020 NCCA Great Lakes human health fish sample preparation QAPP). EPA generally requires one hard copy for most written deliverables, but the EPA TOCOR may request up to 3 hard copies for lengthy written deliverables. The specific number of copies that EPA requires for each written deliverable will be identified in written technical direction issued by the EPA TOCOR and in accordance with contract general requirements. The Contractor shall adhere to the specifications summarized under the General Requirements section and those specified under this section in producing deliverables under this TO.

- The Contractor shall subject all written deliverables to QA/QC measures, including proofreading, grammar, readability, consistency of style, consistent formats of tables and figures, etc.
- The Contractor shall produce deliverables submitted on an annual, quarterly, monthly, or weekly basis in a format that is identical to formats used for these deliverables in earlier years of a study unless otherwise specified by the EPA TOCOR. The EPA TOCOR will provide copies of past deliverables to serve as templates for developing these periodic deliverables.
- The Contractor shall produce hard copy deliverables on bright white bond paper that contains no more than 50% recycled stock.

Routine delivery of deliverables shall be by email for electronic copies and overnight mail for hard copies unless another alternative is specifically requested by the EPA TOCOR through written technical direction. Below is a summary of deliverables and schedule for Tasks 1-4. Note that the number of days specified for deliverables refers to business days.

TASK	DELIVERABLES	SCHEDULE
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1	Communication/Kick-off call	Within 3 days of TO Award
	Task Order monthly progress reports	As specified in Contract No. 68HERC20D0016
2	Lab fish sample check-in completion and sample condition email notification	Day of fish sample delivery to the Contractor laboratory
	NCCA Great Lakes human health fish sample preparation batch assignments for the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study	1 week after receiving 20 HH fish samples for each study
	Draft NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study batch fish sample preparation instructions	3 days after EPA TOCOR approval of batch assignments for each study;
	Final batch fish sample preparation instructions for the NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study	2 days after receipt of EPA TOCOR comments
	List of expendable laboratory supplies (including the amount and cost for each of the supplies) required to support NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study sample preparation	Before ordering any supplies
	NCCA 2020 GLHHFFTS and 2020 ORD-Duluth Great Lakes special study fish sample preparation processing	2 weeks per batch of Great Lakes human health fish samples
3	Notifications of delivery of NCCA 2020 Great Lakes fish sample preparation QC samples and lipid analysis fillet samples	Day of shipment and day of delivery to receiving laboratory
	Notifications of QC sample and lipid analysis fillet sample condition at time of delivery	Within 24 hours of analytical laboratory receipt of samples
4	Fish sample preparation weekly progress reports for the 2020 GLHHFFTS and the 2020 ORD-Duluth Great Lakes special study	Tuesdays after each week of fish sample preparation
5	Notifications of NCCA 2020 Great Lakes fish sample preparation QC samples and lipid analysis fillet samples	Day of shipment and day of delivery

GENERAL REQUIREMENTS OF THE TASK ORDER AND SCHEDULE

Limitation of Contractor Activities

The contractor shall submit drafts of all deliverables to the TOCOR for review prior to

submission of the final product. The contractor shall incorporate all TOCOR comments into all final deliverables, unless otherwise agreed upon by the TOCOR. The contractor will adhere to all applicable EPA management control procedures as implemented by the EPA Contracting Officer (CO), Contract-Level COR (CLCOR), and TOCOR.

The contractor shall provide necessary technical and scientific services related to approval of new methods and method modifications. The types of services required are described further under the scope of work section.

Task Order Administration through Technical Direction

The Contract level COR, the TOCOR, or the Alt-TOCOR (when TOCOR is away on leave) is permitted to provide technical direction. Technical direction must be within the statement of work of the contract and includes: (1) Direction to the Contractor which assists the Contractor in accomplishing the PWS, (2) Comments on and approval of reports or other deliverables. Technical direction will be issued in writing or confirmed in writing within five (5) calendar days after verbal issuance. One copy of the technical direction memorandum will be forwarded to the Contracting Officer and the Contract Level Contracting Officer Representative.

Work conducted under this TO shall not duplicate work conducted under any other TO or Work Assignment under any other contract. As required, the EPA TOCOR will provide technical direction in accordance with Clause H-19 of the contract, EPAAR 1552.237-71 TECHNICAL DIRECTION (AUG 2009) and the Contract Level Performance Work Statement (PWS).

Quality Assurance and Quality Control

The Contractor shall provide EPA with monthly reports of QA activities performed during implementation of this TO. These monthly QA reports shall identify QA activities performed to support implementation of this TO, problems encountered, deviations from the QAPP, and corrective actions taken. If desired, the Contractor may include this as a part of the contract-required monthly financial/technical progress report.

The contractor shall address the QA requirements of this TO through Tetra Tech's Quality Management Plan for the contract and through the *Quality Assurance Project Plan for Preparation of Fish Fillet Tissue Samples for the 2020 National Coastal Condition Assessment Great Lakes Human Health Fish Fillet Tissue Study*.

The contractor shall submit relevant QA documentation as requested by the EPA TOCOR. The contractor shall permit a QA review of data entry documents and procedures by an authorized agent of EPA at any time during the performance period (given advanced notification).

The EPA will assess Contractor performance in accordance with the Quality Assurance Surveillance Plan (QASP), Attachment 1 to this PWS.

Deliverable Formatting

For deliverables formatting and procedures, the contractor shall provide draft and final written deliverables for review by the TOCOR and prepare in electronic format by the scheduled delivery date provided by the TOCOR. If a hard copy is needed, the TOCOR will provide written technical direction to the contractor. As well, the TOCOR will provide instructions to the contractor for draft and final deliverables format as discussed in tasks under the scope of work section. Each initial deliverable shall be provided to the TOCOR in draft form for review and comment. The contractor shall incorporate TOCOR comments into revisions of the drafts. The contractor shall incorporate procedures to ensure that these drafts are reasonably free from errors before providing them to EPA. All drafts and final reports shall be approved by the TOCOR.

The contractor shall discuss the computer file formats to be used for word processing, spreadsheet, and graphics with the TOCOR prior to file preparation. Documents that the TOCOR identifies for posting on EPA's webpage shall be Section 508 compliant.^a

Printing

All copying and printing shall be accomplished within the limitations of the printing clause of the contract.

Deliverable Due Dates

The contractor shall assume the deliverable due dates in the tables for each task and presented further and summarized in the Deliverable Schedule section. The TOCOR needs to provide to the contractor written technical direction where deliverable dates are not specified in tables. Major technical deliverables shall be subject to internal contractor peer review by an expert(s) not directly involved in the mainstream TO tasks. Deliverables will be prepared with proper adherence to EPA style and format requirements.

Travel

The Contractor shall provide specific travel details and costs for any travel directly chargeable under this TO and must submit it for travel approval by the TOCOR and the Contract-Level COR (CLCOR) before each trip occurs (as specified by the contract per clause H.33). All travel under this TO shall follow contract requirements. During this TO performance period, EPA does not anticipate local or long-distance travel for the Contractor.

Meetings, Conferences, Training Events, Award Ceremonies and Receptions

The EPA projects that none of the individual meetings identified in these tasks will exceed a total cost of \$20,000. The Contractor shall immediately notify the EPA Contracting Officer, CL-COR

^a See <http://www.epa.gov/epahome/accessibility.htm>.

and TOCOR of any anticipated individual event involving support for a meeting, conference, workshop, symposium, retreat, seminar or training that may potentially incur \$20,000 or more in cost during performance. Conference expenses are all direct and indirect costs paid by the government and include any associated authorized travel and per diem expenses, room charges for official business, audiovisual use, light refreshments, registration fees, ground transportation and other expenses as defined by the Federal Travel Regulations. All outlays for conference preparation should be included, but the federal employee time for conference preparation should not be included. After notifying EPA of the potential to reach this threshold, the Contractor shall not proceed with the task(s) until authorized to do so by the Contracting Officer.

Confidential Business Information

For this TO, the contractor shall not be accessing any Confidential Business Information (CBI).

Budget Reporting

The Contractor shall report to the TOCOR and Contract Level COR (CLCOR) when 85 percent of the total budget for this TO has been depleted.

Identification as Contracting Staff

To avoid the perception that contractor personnel are EPA employees, contractor personnel shall be clearly identified as independent contractors of EPA when participating in events with outside parties and prior to the start of any meeting. Contractor personnel are prohibited from acting as the Agency's official representative. When speaking with the public the contractor should refer all interpretations of policy to the TOCOR.

Attachments:

1. Contract Level QASP

ATTACHMENT 1

QUALITY ASSURANCE SURVEILLANCE PLAN

“Technical Support for Assessing, Managing, and Communicating the Ecological and Human Health Risks of Contaminants in Water, Fish, and Sediments, and of Microbial Pathogens in Surface Waters”

Purpose: The requirements performed under this contract are considered performance-based, focusing on the Agency’s desired results and outcomes. The contractor shall be responsible for determining the most effective means by which these requirements will be fulfilled. In order to fulfill the requirements, the contractor shall design innovative processes and systems that can deliver the required services in a manner that will best meet the Agency’s performance objectives. This performance-based requirement represents a challenge to the contractor to develop and apply innovative and efficient approaches for achieving results and meeting or exceeding the performance objectives, measures, and standards described below. The Contractor’s performance will be reflected in the positive or negative evaluation offered by the Agency in the Contractor Performance Evaluation (CPE) which is evaluated annually (per the “Contractor Performance Evaluation” clause in the contract). The TOCOR shall submit a complete annual review of the areas outlined in the Quality Assurance Surveillance Plan (QASP), included in the contract, which will then be utilized by the Contract Level Contracting Officer’s Representative (CL-COR) in preparing the overall evaluations submitted annually in response to the CPE requirements in the contract. The TOCOR for each individual task order will provide the review of the deliverables at the location specified in the identified task order.

General Management and Administration			
Performance Requirement	Measurable Performance Standards	Surveillance Methods	Incentives/Disincentives
Management and Communications: The Contractor shall maintain contact with the EPA Contracting Officer (CO), Contracting Officer’s Representative (COR), and Task Order COR (TOCOR) throughout performance of the contract and shall immediately bring potential problems to the attention of the appropriate EPA TOCOR. In cases where issues have a direct impact on project schedules and/or cost, the Contractor shall provide options for EPA’s consideration on resolving or mitigating the impacts.	Any issues that impact project schedules and/or cost shall be brought to the attention of the appropriate EPA TOCOR within 3 business days of occurrence.	100% of active task orders under the contract will be reviewed by the EPA TOCOR monthly (via Monthly Progress Report) to identify unreported issues. The EPA TOCOR will report any issues to the EPA COR, who will bring the issue(s) to the Contractor’s attention through the EPA CO.	Unsatisfactory rating under the category of Business Relations in the Contractors Performance Appraisal Review System (CPARS) if two or more incidents occur during an applicable period of performance when the Contractor does not meet the measurable performance standards. Fewer than two incidents per contract period where the contractor does not meet the measurable performance standard will be considered satisfactory performance and will be reported as such in the CPARS Performance Evaluation System under the category of Business Relations.
Timeliness: Services and deliverables shall be in accordance with schedules	During any period of performance, 90% of all submitted	100% of active task orders under the contract will be	Unsatisfactory rating under the category of Timeliness in the CPARS when the

stated in each task orders, unless amended or modified by an approved EPA action.	deliverables shall be submitted no later than one business day past the due date.	reviewed by the EPA TOCOR monthly (via Monthly Progress Report & milestones established for each deliverable) to compare actual delivery dates against the approved delivery dates. The EPA TOCOR will report any issues to the EPA COR, who will bring the issue(s) to the Contractor's attention through the EPA CO.	<p>Contractor does not meet the measurable performance standards during an applicable period of performance.</p> <p>A satisfactory rating will be reported in the CPARS Performance Evaluation System under the category of Timeliness if the contractor meets the measurable performance standards.</p>
<p>Cost Management and Control: The Contractor shall monitor, track and accurately report level-of-effort, labor cost, and other direct cost to EPA through progress reports and approved special reporting requirements.</p> <p>The Contractor shall assign appropriately leveled and skilled personnel to all tasks, practice and encourage time management, and ensure accurate and appropriate timekeeping.</p>	The Contractor shall manage costs to the level of the approved ceiling on the task orders. The Contractor shall notify the EPA TOCOR/COR when 75% of the approved funding ceiling for the work assignment is reached.	The EPA COR will routinely meet with the Contractor's Project Manager to discuss the work progress, and the contract and individual task order expenditures. The EPA COR shall review the Contractor's Monthly Progress Reports and request the TOCOR's verification of expenditures and technical progress before authorizing invoice payments.	<p>Unsatisfactory rating under the category of Cost Control in the CPARS when the Contractor does not meet the measurable performance standards during an applicable period of performance.</p> <p>A satisfactory rating will be reported in the CPARS Performance Evaluation System under the category of Cost Control if the contractor meets the measurable performance standards and accurately reports the costs in the progress reports according to the requirements in the "Reports of Work" attachment to the Contract.</p>
<p>Technical Effort: The analyses or products developed by the Contractor shall be factual, defensible, and based on sound science and engineering. All data shall be collected from reputable sources; quality assurance measures shall be conducted in accordance with contract and Agency requirements, and any additional requirements outlined in individual task orders or technical directives. Any work</p>	All (100%) analyses conducted for EPA by the Contractor must be factual and based on sound science and engineering. All analyses and products (initial and final drafts) shall conform in format and content to requirements	EPA will review all analyses conducted and products prepared by the Contractor and will independently consider their merit. EPA may opt to peer review analyses to further validate their merit.	Unsatisfactory rating under the category of Quality of Product or Service in the CPARS when the Contractor does not meet the measurable performance standards during an applicable period of performance, even after review input and follow up discussion by Agency personnel.

<p>requiring the Contractor to provide options or recommendations shall include the rationale used in selecting the option/recommendation and all other options and recommendations considered.</p>	<p>specified by the TOCOR in written technical direction and should meet the objectives stated in the task order. All initial draft documents shall be clearly written at a level appropriate to the targeted audience. All information shall be factual, technically sound, and accurate, with data sources identified.</p>		<p>A satisfactory rating will be reported in the CPARS Performance Evaluation System under the category of Quality of Product or Service if the contractor meets the measurable performance standards.</p>
<p>Quality Assurance/Quality Control (QA/QC): The Contractor shall comply with the quality assurance requirements specified in <i>EPA Requirements for Quality Assurance Project Plans</i> (http://www.epa.gov/quality/qs-docs/r5-final.pdf) and as required by the EPA TOCOR. The Contractor shall assign appropriately leveled and skilled technical and quality assurance personnel to develop a Quality Assurance Project Plan (QAPP) for all tasks requiring collection or use of environmental data.</p> <p>The QAPP shall be developed in consultation with the EPA TOCOR, and fully approved by the appropriate EPA personnel, before initiation of activities involving environmental data collection or use.</p> <p>Any change in the planned environmental data activities that become necessary during the course of the project shall be fully documented in approved revised versions of the QAPP prior to their implementation.</p>	<p>The Contractor shall notify the EPA TOCOR of any issues that impact project quality within 3 business days of occurrence.</p> <p>The Contractor shall notify the EPA TOCOR and COR within 5 business days of occurrence of any requests to collect or use environmental data without an EPA-approved QAPP.</p> <p>The Contractor shall document all QA/QC activities, including compliance with the quality objectives specified in the QAPP, in Monthly Progress Reports.</p>	<p>100% of active task orders under the contract will be reviewed by the EPA TOCOR monthly (via Monthly Progress Report) to assess contractor compliance with the approved QAPP, and to identify unreported issues related to project quality and requests to collect or use environmental data without an EPA-approved QAPP. The EPA TOCOR will report any issues to the EPA QAO and COR, who will bring the issue(s) to the Contractor's attention through the EPA CO for immediate resolution.</p>	<p>Unsatisfactory rating under the category of Quality Assurance/Quality Control in the CPARS if more than three incidents occur during an applicable period of performance when the Contractor does not meet the measurable performance standards.</p> <p>A satisfactory rating will be reported in the CPARS Performance Evaluation System under the category of Quality Assurance/Quality Control if the contractor meets the measurable performance standards.</p>